

REMARKS

This paper is responsive to the Office Action dated March 3, 2006 in the above identified application for United States Patent. All rejections and objections of the Examiner are respectfully traversed. Reconsideration of all remaining claims is respectfully requested.

Support for the amendments herein is found throughout the Specification as originally filed, for example in the text from line 7 on page 6 through line 16 on page 8.

In the present Office Action, the Examiner has again rejected claims 1-7 and 10-16 under 35 U.S.C. 103, now citing three references, the previously cited article "Active Storage Nets" by David Nagle ("Nagle") and United States patent number 6,470,382 of Wang et al. ("Wang '382"), and additionally United States patent number 6,834,326 ("Wang '326"). Applicants respectfully traverse this rejection.

Nagle discloses a system in which client systems communicate with one or more network attached storage devices (NASDs) through active routers, and potentially also through one or more active switch and/or active hub devices. One or more Storage Area Networks (SANs) can be used to interconnect the devices through the Nagle system, to provide data transfers between the client systems and the network attached storage devices. Nagle provides no teaching of encapsulating non-network protocol transactions into network protocol data units.

Wang '382 discloses a system to dynamically attach, manage, and access a LAN-attached netSCSI device, in which a broadcast message is sent from the netSCSI device to provide a network address of the netSCSI device, and received at a computer coupled to the network. Wang '382 teaches that the network address of the netSCSI device is mapped to a logical SCSI

ID in the computer. Wang '382 further teaches transmitting a message from the computer to the netSCSI device including the network address of the computer. Subsequently, communication from the computer to the netSCSI device of Wang '382 is performed by accessing the address map. See Abstract. The system of Wang '382 provides a protocol in which to encapsulate data and SCSI commands into a packet. Neither Nagle nor Wang '382 teaches processing performed on a switch in a network.

The Examiner now cites Wang '326 for its teachings regarding processing performed in a switch in a network. Wang '326 discloses a system related to transparent access to a redundant array of inexpensive devices. In particular, Wang '326 discloses connecting redundant disk drives to a controller, preferably an intelligent switch, via a network. The disks in Wang '326 are controlled by commands transported across the network, and may be SCSI, IDE/ATA or other commands. The commands in Wang '326 may be encapsulated in IP packets and transmitted using either a reliable or unreliable transport protocol. See Abstract. The Examiner specifically cites Claim 1 of Wang '326, which sets forth implementing mirrored storage across a network using a disk controller configured to read and write mirrored storage devices, storage devices using a network protocol to communicate with the disk controller, and logic cooperating with the disk controller to transmit a packet addressed to a group of storage devices and directing action by at least two of the storage devices, wherein data returned by the storage devices in response to the packet is staggered. Dependent Claims 13 through 19 of Wang '326 are also cited by the Examiner, and set forth placing packets in Ethernet packets, communicating the packet using a fibre channel protocol, encapsulating the packet in an IP packet, transporting the IP packets using UDP, transporting the IP packets using TCP, commands compliant with one or more SCSI protocols, and implementing networked RAID.

Nowhere in the combination of Nagle, Wang '382 and Wang '326 is there disclosed or suggested any system or method for facilitating operations related to data storage between a first device and at least one data storage unit in a computer network, including:

...
duplicating selected metadata from the at least one data storage unit to the first device, wherein the selected metadata describes a location of data stored on the data storage unit;
causing generation of a storage services protocol transaction to access the data stored on the data storage unit and described by the selected metadata, wherein the generation is responsive to the selected metadata duplicated to the first device;
... (emphasis added)

as in the present independent claim 1. Analogous features are also found in the present independent claim 10. The combination of Nagle, Wang '382 and Wang '326 includes no hint or suggestion duplicating selected metadata as in the present independent claims. In contrast, Wang '326 only teaches copying of metadata between switches on failover (see line 61 column 9 through line 30 column 10), Wang '382 includes no discussion of handling metadata, and Nagle expressly teaches away from duplicating metadata to a client system in slide 17 on page 9.

Applicants further respectfully urge that there is no motivation to combine Nagle with Wang '382 and/or Wang '326 in the manner of the present independent claims, since Nagle teaches away from duplicating metadata to a client system. A *prima facie* case of obviousness under 35 U.S.C. 103 must include a showing of a suggestion, teaching or motivation that would have led a person of ordinary skill in the art to combine the cited references *in the particular manner claimed*. See In re Dembiczak, 175 F.3d 994, 998 (Fed. Cir. 1999), and In re Kotzab, 217 F.3d 1365, 1371 (Fed. Cir. 2000). In the present case, Nagle teaches away from duplicating metadata to a client system. By teaching away from duplicating metadata to a client system, Nagle expressly teaches against any combination that would include such a feature. A person

skilled in the art would accordingly not be motivated to combine Nagle with any reference in the manner of the present independent claims 1 and 10.

For the above reasons, Applicants respectfully submit that the combination of Nagle, Wang '382 and Wang '326 does not disclose or suggest all the features of the present independent claims 1 and 10, and that a sufficient motivation to combine the references has not been shown. Accordingly, the combination of Nagle, Wang '382 and Wang '326 does not form the basis of a *prima facie* case of obviousness with regard to the present independent claims 1 and 10 under 35 U.S.C. 103. As to claims 2-4, 6, 11-13, and 15-16, they each depend from claims 1 and 10, and are respectfully believed to be patentable over the combination of Nagle, Wang '382 and/or Wang '326 for at least the same reasons. Claims 5 and 14 have been cancelled.

The Examiner also rejected claims 8-9 and 17-18 for obviousness under 35 U.S.C. 103, again citing the combination of Nagle, Wang '382, and Wang '326, and further citing sections from Chapter 7 of "Security in Computing" by Pfleeger ("Pfleeger"). Applicants respectfully traverse this rejection.

As noted previously, Pfleeger describes the principles underlying design of trusted operating systems, and lists auditing and logging within the security features of trusted operation systems. Like Nagle, Wang '382 and Wang '326, Pfleeger includes no disclosure or suggestion of any system or method for facilitating operations related to data storage between a first device and at least one data storage unit in a computer network, including:

...
duplicating selected metadata from the at least one data storage unit to the first device, wherein the selected metadata describes a location of data stored on the data storage unit;

causing generation of a storage services protocol transaction to access the data stored on the data storage unit and described by the selected metadata, wherein the generation is responsive to the selected metadata duplicated to the first device;
... (emphasis added)

as in the present independent claims 1 and 10, from which claims 8-9 and 17-18 depend. The Pfleeger reference is not directed towards providing storage information over a network, and accordingly does not disclose any hint or suggestion of duplicating metadata describing a location of data stored in a data storage unit, as in the above cited features of the present independent claims.

For the above reasons, Applicants respectfully urge that the combination of Nagle, Wang '382, Wang '326, and Pfleeger does not disclose or suggest all the features of the present independent claims 1 and 10, from which claims 8-9 and 17-18 depend. Accordingly, the combination of Nagle, Wang '382, Wang '326, and Pfleeger does not support a *prima facie* case of obviousness under 35 U.S.C. with regard to the present independent claims 1 and 10. As claims 8-9 and 17-18 depend from claims 1 and 10, they are respectfully believed to be patentable over the combination of Nagle, Wang '382, Wang '326, and Pfleeger for at least the same reasons.

Reconsideration of all pending claims and withdrawal of all rejections are respectfully requested.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone David A. Dagg, Applicants' Attorney at 617-630-1131 so that such issues may be resolved as expeditiously as possible.

For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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